

MORRIS
Eye Diseases

Childhood Eye Conditions*

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Approximately seventy-five per cent of all cases of blindness are preventable. My hope is that in the short space of time allotted to the topic, I may be able to afford you additional information and new viewpoints regarding this phase of your work.

First, let us take a brief account of at least the most important pathological eye conditions of childhood most subject to prevention, to get at their meaning and significance so far as they relate to the child's health and social welfare.

Six outstanding conditions of this kind are known; they are:

1. Hereditary eye involvements
2. Congenital abnormalities
3. Ophthalmia neonatorum
4. Interstitial keratitis
5. Myopia
6. Sympathetic ophthalmia.

First point: Hereditary eye involvements: These represent principally chorio-retinal degenerations, pathological changes in the optic nerves, and account for a large percentage of blindness in children. A great deal of study and research has been devoted to this condition. As the facts began to impress themselves on those feeling the responsibility for the general welfare of human beings, voices were raised insisting upon a legal bar against marriages of persons afflicted with ills that necessarily would endanger the normality of their offspring. Sterilization was proposed. One objection raised against this proposition is that if such course is taken it ought to apply to other types of unfitness, such as habitual criminals, moral degenerates, alcoholics, and others. Better judgment suggests that in place of social health legislation in such a matter as hereditary visual defects, wise educational programs should be put in operation, particularly personal

* Paper read before the New York State Conference of Social Work, held at Buffalo, N. Y., on October 23, 1935.

enlightenment of afflicted men and women, making plain to them the serious responsibility which goes with the propagation of children doomed to blindness from their very birth.

Second point: Congenital abnormalities: These consist principally of the following three groups:

- (a) Malformations entailing unsightly cosmetic defects as well as lowered vision and blindness.
- (b) Cataracts.
- (c) Muscular involvements.

(a) Very little can be done, as a general rule, to improve cosmetic conditions. In the case of a child born with one eye lacking, the usual attendant defect is a lack of development of the orbit and the face on the affected side. The simplest remedy is to insert a glass eye, as early as practical, for experience has shown that where a glass eye is put in place of the lacking natural eye, the face on the affected side develops as a rule in a normal way.

(b) Cataracts are quite common among the congenital eye defects. It is most important that such cases be recognized and operated upon as early as possible, in order that normal visual acuity may be established. A protracted delay in the removal of the cataract usually results in amblyopia, or lowered vision due to the lack of development. Disuse of any organ of the human system brings on organic changes. This is an axiom which cannot be insisted upon too often and too emphatically.

Another bad effect of delayed operation in case of congenital cataract is that the child often develops nystagmus or habitual oscillation of the eye. This habit is acquired by the child's constantly moving its eye about seeking in vain for a clear spot affording vision through the density of the cataract.

In cases where delay has resulted adversely, there are bound to be regrets when reflection makes clear that had help been given to the child when he was yet able to develop visual acuity, he would have been spared a life of blindness or at least extremely poor vision. This certainly is a plea for an adequate and intelligent investigation of all cases of lowered vision. It would be well if among the health leaflets distributed among parents frequent mention were made of the need of having every case of blindness or impaired vision taken care of promptly.

(c) Congenital anomalies also include muscular involvements. Among these is *strabismus*, commonly known as cross

eye or squint. Such cases should be cared for early by operation, the prescribing of proper correcting lenses, muscular exercises, etc. Such action should be taken at a time when it is still possible to develop visual fusion, making both eyes perform as one in single binocular vision. Depth perception, or the ability to judge distances and locate objects, is a product of single binocular vision; hence the importance of preserving such vision through early attention.

Third point: Ophthalmia Neonatorum: In such cases there is found a purulent discharge from the eyes of infants, commencing within a few days after birth. Although serious, it is an easily preventable disease. It usually results from carelessness and lack of cleanliness at time of birth. If not taken care of promptly, it may and often does lead to blindness. Prophylaxis to prevent this disease, indicated briefly, is:

(a) Prenatal treatment of the mother. Every effort should be made to free the birth canal of purulent discharge.

(b) The baby's eyes should be protected from all discharge at the time of birth.

(c) Extreme care should be exercised in the first toilet of the newborn child; the closed eyelids should be cleansed and dried.

(d) After cleansing, 1% silver nitrate should be instilled in the eyes.

It is to the everlasting honor of that great teacher and physician, Credé, that he was the first to advocate the use of silver nitrate in the eyes of all newborn infants. When this antiseptic is instilled in the eyes, after a thorough cleansing of them, the danger of this dread disease is minimized almost to the vanishing point.

In this state there is no law compelling physicians or midwives to use this prophylactic. Birth certificates, however, require the attendant to specify that silver nitrate had or had not been used. It is now generally recognized that the use of silver nitrate in proper strength is the *safe* procedure. If gonorrheal ophthalmia develops following the birth of the child and if the certificate shows that silver nitrate had not been used, the attendant will find himself in a most uncomfortable position. In spite of these precautions, however, there are occasional cases of infection.

It should be stressed that all cases of ophthalmia neonatorum be isolated. There should be night and day nurse service. There should be frequent bacteriological examination

of smears of the conjunctival discharge, and no case should be discharged from treatment until a number of smears have been returned as negative. It might be added that tears are not secreted during the first week following birth, and therefore any discharge, no matter how slight, should be regarded as suspicious.

The New York State Commission for the Blind has circularized physicians and midwives throughout the state urging that on discovery of a case of ophthalmia neonatorum, they notify the Commission at once, hospitalize the child and provide the best ophthalmological service possible; the State of New York agreeing to care for hospitalization and nursing if beyond the family means.

Fourth point: Interstitial Keratitis: Here the cornea or clear part of the eye becomes white and glassy or steamy, without any discharge. This quite common disease is a most serious menace to the integrity of sight. It occurs in the offspring of syphilitics, usually becoming manifest between the ages of five and fifteen. It is to be deplored that treatment for the eye seems to be of little avail when once the condition is established. Notwithstanding this we give antiluetic treatment as a routine measure in order, if possible, to prevent syphilitic outbreaks in other parts of the body. However, it is comforting to know that there is at hand a reasonably sure preventive measure. *Prenatal treatment*, that is the administering of antiluetic treatment to the syphilitic mother, assures the child's being born without the taint. Hence the very, very great importance of our social workers seeing to it that there be a routine blood test for all pregnant women coming under their care, and that all syphilitic expectant mothers be given treatment for the safeguarding of the child.

Fifth point: Myopia: This means nearsightedness, as you know. What really occurs in high degrees of myopia, is that the eye as result of a stretching out of its sustaining wall (sclera) loses its practically spherical shape and becomes elongated antero-posteriorly. This change in the shape and size of the outer coats of the eye results in disturbance of its nutrition with consequent serious pathological changes. It is well to bear in mind that myopia becomes progressive and develops according as the eye is used for close work. If close work be persisted in, it is bound to terminate in blindness, in certain cases. It is important therefore that the nearsighted child be made a special object of study. Where myopia is low

in degree and not markedly progressive, it is commonly referred to as *School myopia*. Here the need is provision of good lighting in the classrooms, good print in the books, regulated needlework, a maximum of oral instruction and the early correction of errors of refraction: Good School Hygiene, in other words. Where the myopia is high in degree and progressive there is the necessity of special methods for the safe education of those subject to the disease. There must be complete elimination of every form of eyestrain such as is involved in close work. Education will need to be all oral and efforts should be made to direct young people thus afflicted into suitable occupations.

Sixth point: Sympathetic Ophthalmia: In cases where an eye has sustained a perforating injury resulting in loss of its sight there is grave danger, unless the eye be removed, of an inflammation developing in the uninjured eye resulting in total blindness. To be sure, at times this happening is deferred for many years, building up more or less false security. The fact remains, however, that where an eye has been made blind as result of a perforating injury (including operations), unless it be removed, there eventually develops sympathetic ophthalmia and loss of the uninjured eye, meaning total blindness. The responsibility of allowing the injured eye to remain is a grave one. Hence social workers should see to it that the case be brought at once to the attention of a competent ophthalmologist. Those most directly concerned should be told of the urgency of the need for removal of the blind eye, lest they be lulled by a false sense of security when they find one or two years to pass without acute symptoms developing in the good eye. The indicated symptoms may appear in a few months, or they may be deferred for several years, but their coming is almost certain.

I have brought to your attention as concisely as I could the principal preventable affections of the eye to be observed in children. My regret is that time has not permitted me to touch on any but the outstanding conditions and diseases which may result in blindness. I trust that the brief presentation may make us all more eager to battle against the indicated evils and to secure as far as lies in our power perfect vision for all children who come within the range of our responsibilities.

In closing, let me urge upon all social workers and investigators the paramount importance of recognizing ocular defects

early in childhood, and having competent measures taken to protect vision. I am sure you recognize the seriousness of the need of preventive measures and will bear with me if I call attention to them once more:

1. See to it that every case of congenital cataract is operated upon early.

2. Every case of squint (cross eye) or muscular imbalance must be given the benefit of early treatment.

3. Referring again to ophthalmia neonatorum let me stress the point that any case of discharge or what appears to be tears oozing from the eyes, during the first week or so after birth, should be regarded as highly suspicious of gonorrheal ophthalmia; and the child should be put immediately under proper treatment and isolation, including repeated bacteriological examination of smears.

4. See to it that there is a routine blood examination for all pregnant women. Insist that every expectant syphilitic mother receive prenatal antiluetic treatment. By doing this you will help to stamp out that common sight-destroying disease known as interstitial keratitis.

5. Direct every case of myopia to the care of a competent ophthalmologist. Be assured that the child is afforded proper school hygiene, stressing particularly the avoidance of close work.

6. Advocate in every instance the early removal of an eye that has been made blind as result of a perforating injury.

What has been enumerated does not include by any means all the eye ailments to which children are susceptible, but only the principal ones. A child escaping these will have a first class chance of lifelong normal vision. By concentrating on those six points we shall help to preserve intact the precious heritage of eyesight in many of our children who otherwise would have been condemned to the solitude of an endless night.

Finally, and once more: Let us not forget that about seventy-five per cent of all cases of blindness are preventable.

Published by the
New York State Commission for the Blind
80 Centre Street, New York City.



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